

## WIPE DISPENSER THREADER

### BACKGROUND OF THE INVENTION

The present invention relates generally to containers for dispensing pre-moistened  
5 wipes, and more particularly to a device for threading an initial wipe through the opening of the  
wipe dispenser.

Wipe dispensers have long been well known in the art of pre-moistened wipes,  
especially baby wipes, and have recently become well known for use with similar products such  
as hand wipes and wipes for car washing. A typical wipe dispenser consists of a container, often  
10 cylindrical in shape, with a cap attached to one end. The cap generally includes a small opening  
that allows a user to pull wipes through the opening without having to remove the entire cap and  
reach into the container. To increase the ease of dispensing the wipes, the wipes are generally  
joined together inside the container in roll form or accordion form so that once a first wipe has  
been pulled through the opening, each additional wipe will consequently follow through the  
15 opening. Lines of weakening separate the wipes, and consequently the pulled wipe tears from  
the web as the wipe clears the opening. This leaves the next wipe exposed and eliminates the  
need to open the cap and pull each individual wipe through the opening.

A typical wipe dispensing container such as that described above is disclosed in  
U.S. Patent 6,364,101 to Shultz. Fig. 1 of the present application is a perspective view of the  
20 Shultz wipe dispenser 10 as an example of a common wipe dispenser. In brief, the Shultz  
dispenser 10 includes a cylindrical container 12 enclosing a roll of pre-moistened wipes 14 (a  
portion of the container 12 is broken away to show the wipes 14), and a cap 16 conventionally  
attached to the top of the container 12. The cap 16 includes a small opening 18 so that the wipes

14 may be pulled through the opening 18 without removing the cap 16. The cap also includes an attached hinged lid 20 that may be closed over the opening 18 to seal off the wipes when not in use. The roll of wipes is usually disposed so that the start of the roll can be found on the inner diameter of the roll 22 (shown in broken lines).

5           The difficulty in conventional prior art dispensers such as that shown above is the process of removing the initial wipe. Generally, when a consumer purchases a conventional wipe dispenser the entire roll of wipes is inside the container. This means that to access the initial wipe, the user must remove the cap and reach into the container to pull out the first wipe in the roll. Not only can it be difficult to find the location of the first wipe on the inner diameter of the roll while reaching inside of the container, it is equally cumbersome to thread the first wipe  
10           through the opening in the cap before reattaching the cap to the container.

          In some cases, manufacturers have attempted to solve this problem by threading the initial wipe through the cap opening before the container is purchased by the consumer. These designs generally utilize the secondary cap 20 (Fig. 1) to cover the exposed wipe until  
15           opened by the consumer. While this solves the difficulties in dispensing the first wipe for the consumer, it only serves to pass the problem to the manufacturer. In these cases, the manufacturer loses valuable manufacturing time in going through the same steps the consumer previously did to gain access to the first wipe.

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#### SUMMARY OF THE INVENTION

          The aforementioned difficulties are overcome by the present invention wherein a threader is provided for a conventional wipe dispenser to dispense the initial wipe from the container. In a preferred embodiment, the threader has a base that attaches over the opening in

the cap and includes a stem and a pair of arms extending down into the container. The stem extends straight down from the base through the inner diameter of a roll of pre-moistened wipes. A pair of arms are flexibly attached to the end of the stem, preferably with a hook on the end of one or both of the arms. The base includes a finger loop opposite the stem and exterior to the container so that a user may grip the loop and remove the threader from the container.

In another preferred embodiment, the base fits over the opening of a conventional wipe dispenser cap, and can be removably attached over the opening. The stem is attached on the lower side of the base, and a device for gripping the threader is attached on the upper side. The gripping device is preferably a finger loop, which is a ring that a user can either grab or place a finger through in order to pull up on the threader for removal. The finger loop is external to the container when the base is attached.

In another preferred embodiment, the stem extends into the inner diameter of the roll, and a pair of arms is flexibly attached to the stem. The arms are preferably attached to the stem by flexible rods that allow the arms to flex from a first position folded back against the stem, to a second equilibrium position where the angle between the arms and the stem is such that the arms contact the inner diameter of the wipes, to a third position folded completely downward. In another preferred embodiment, there is a hook at the end of one of the arms. The point of the hook faces the stem when the arms are in the first position. A number of barbs are located on the outer surface of the hook to increase the friction between the arm and the inner diameter of the wipes.

In another preferred embodiment, the threader is inserted into the container by the manufacturer. When the threader is inserted, the arms flex back towards the stem to fit through the opening in the cap. The stem and arms extend into the container through the inner diameter

of the roll and the base is removably attached over the opening. Upon first use, the consumer pulls on the finger loop to remove the threader from the container. As the stem is drawn upwardly, the arms contact the roll and the friction between the roll and the arms forces the arms to flex away from the stem, pressing out on the roll. As the arms press on the roll, the hook on the first arm catches on the inner layered wipe in the roll. As the threader is withdrawn from the container, the arms flex completely downward to fit back through the opening with the initial wipe caught on the hook. The hook may then be removed from the wipe and the threader discarded.

The present invention is capable of dispensing the initial wipe from a wipe dispensing container such that the consumer does not have to remove the cap, reach into the container, or thread the first wipe through the opening in the cap. The present invention therefore greatly eases the wipe dispensing process and also saves time in accessing the first wipe. The amount of flex provided by the flexible bars can be adjusted in the manufacturing process to accommodate any type of wipe material, so that the threader only catches on the inner layered wipe.

These and other objects, advantages, and features of the invention will be readily understood and appreciated by reference to the detailed description of the preferred embodiment and the drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a prior art wipe dispenser.

Fig. 2 is a sectional view of the wipe dispenser of the present invention with the threader in the attached or pre-use position .

Fig. 3 is a side elevational view of the threader with the arms extended normal to the stem.

Fig. 4 is a side view of the threader passing downwardly through the cap opening during insertion.

5 Fig. 5 is a sectional view of the wipe dispenser showing the threader as it is pulled from the container with the arms normal to the stem.

Fig. 6 is a sectional view of the wipe dispenser showing the threader as it is about to be removed from the container.

10 Fig. 7 is a sectional view of the wipe dispenser showing the threader as it is being removed from the container with the initial wipe attached.

Fig. 8 is a side elevational view of an alternative embodiment of the threader including an alternative hook.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

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### I. Overview

A wipe dispenser in accordance with a preferred embodiment of the present invention is shown in Fig. 2 and generally designated 30. The wipe dispenser 30 generally includes an elongated sheet of pre-moistened wipes 32 in roll form, a container 34, a cap 36, and  
20 a threader 38. The container 34 and cap 36 are conventional and well known in the art. The threader 38 is intended to be adapted to fit a wide variety of shapes and sizes of these conventional containers and caps, but for purposes of disclosure, the present invention will be described in connection with the particular container 34 and corresponding cap 36 shown.

Referring now to Fig. 3, the threader 38 generally includes a base 40, a stem 42, and a pair of arms 44 and 46 extending from the stem 42. The stem 42 includes an upper end 48 and a lower end 50. The arms 44 and 46 are flexibly attached to the lower end 50, and the tip of at least one of the arms 44 and 46 comprises a hook 52. In operation, the wipe dispenser 30 is purchased with the base 40 attached over an opening 54 in the cap 36, shown in Fig. 4. Referring now to Fig. 2, the stem 42 extends into the container 34 through the inner diameter 56 of the wipes 32. The arms 44 and 46 are folded back towards the stem 42 to fit inside the inner diameter 56. After purchase, a user manually removes the threader 30 by pulling on the base 40. As the threader is removed, the arms 44 and 46 frictionally engage the inner diameter 56 of the wipes 32 and fold outward, pressing into the wipes 32. The hook 52 catches on the inner layered wipe 58 from the inner diameter 56, and pulls the wipe 58 through the opening 54. The wipe 58 is then disengaged from the hook 52 and the threader 38 may be discarded.

## II. Structure

The present invention is shown in Fig. 2 and is generally designated 30. The invention is described in connection with a roll of pre-moistened wipes 32 disposed inside a conventional cylindrical wipe dispensing container 34, and cap 36. The wipes 32 may be comprised of any desired sheet material, and are preferably pre-moistened with a conventional cleanser or lotion. The wipes are generally disposed inside the container 34 in roll form, having an inner diameter 56 extending vertically for the length of the container 34. The container 34 is generally molded from a conventional thermoplastic into a cylinder with an opening 60 at one end. The opening 60 is preferably adapted to receive attachment from the cap 36, for instance, threads may be included on the outer rim 62 of the opening 60 to receive a screw-on cap 36.



Alternatively, the container 34 may attach to the cap 36 in any other conventional manner, but preferably in a manner that allows for easy removal and reattachment. The cap 36 is similarly molded from plastic and adapted to receive attachment from the container 34, and generally contains an opening 54. The opening 54 is preferably located in the center of the cap 36, such that it aligns with the inner diameter 56 of the wipes 32. The opening 54 is generally small, such that a sheet material such as a wipe may be pulled through the opening 54, but will not slide freely through the opening 52 without being pulled. In some cases, the cap 36 may also include a secondary cover 64 (see the prior art in Fig. 1) that closes over the opening 54.

The threader 38 is preferably molded from a conventional thermoplastic or other suitable material. Shown in Fig. 3, the threader 38 preferably includes a base 40, a stem 42, and a pair of arms 44 and 46. The base 40 is preferably shaped to fit over the opening 54 in the cap 36 and is capable of removable attachment to the cap 36 by an adhesive or another conventional attachment method. The base 40 has an upper surface 66 that preferably includes a finger loop 68 to allow a user to pull the threader 38 out of the container 34. The finger loop 68 is preferably a ring molded from plastic that is molded or conventionally attached to the upper surface 66 of the base 40. Alternatively, any other device that allows a user to pull the threader 38 from the container 34 may be used in place of the finger loop 68, such as a t-shaped pull handle.

The stem 42 is a plastic rod that is attached normal to the base 40 opposite the finger loop 68. A pair of arms 44 and 46 are hingedly attached to opposite sides of the lower end of the stem 50. When the base 40 is attached over the opening 54, the stem 42 extends down into the container 34 through the inner diameter 56 such that the arms 44 and 46 are below the upper edge 55 of the wipes 32. The arms 44 and 46 are preferably plastic rods that extend normal to the stem 42, with the combined length of both arms 44 and 46 substantially larger than the inner

diameter 56 of the roll 32. Referring now to Figs. 3 and 4, the arms 44 and 46 are preferably attached to the stem 42 with flexible plastic rods 74a,b. The flexible rods 74a,b allow the arms 44 and 46 to be flexed such that they can fold back against the stem 42 or flex completely downwards. Arm 46 extends from the flexible rod 74b to form a hook 52, and arm 44 extends from flexible rod 74a to form a hook 52. The hook 52 points upward when the arm 44 is extended normal to the stem 42, and tapers to a point 80. The hook 52 also has a lower surface 82 that includes one or more small barbs of plastic 84 projecting from it. Similar barbs 84 could be disposed on arm 46 if desired. The amount of flexibility in the flexible rods 74a,b, can be adjusted by modifying the material and thickness of the rods. The preferred flexibility is such that when the threader 38 is inserted into the container 34, the arms 44 and 46 contact the inner diameter 56 of the wipes 32, and when the threader 38 is removed a sufficient amount of friction is created between the arms 44 and 46 and the wipes 32 to force the arms to fold down and catch on the inner layered wipe 58.

### III. Operation

In operation, a roll of wipes 32 is placed in the container 34 by a manufacturer, and the cap 36 is then secured onto the container 34. The manufacturer then attaches the threader 38 by inserting it into the container 34 through the opening 54. When inserting the threader 38 into the container 34, the manufacturer aligns the lower end 70 of the stem 42 with the opening 54 and simply pushes the stem 42 and arms 44 and 46 through the opening 54 so that the arms 44 and 46 fold back towards the stem 42 to fit through the opening 54. The threader 38 is pushed into the container until the base 40 engages the opening 54 and is conventionally attached. Fig. 2 shows the threader 38 in the attached position. Alternatively, the threader 38



may first be attached to the cap 36 by the manufacturer so that the manufacturer pushes the stem 42 and arms 44 and 46 directly into the roll of wipes 32 and then secures the cap 36 to the container 34. When the threader 38 is in the attached position, the arms 44 and 46 are folded back towards the stem 42, but in contact with the inner diameter 56 of the wipes 32. The hook 52 on arm 44 and the tip 76 of arm 46 are below the upper edge 55 of the wipes 32.

After the wipe dispenser 30 has been purchased, the consumer gains access to an initial wipe by removing the threader 38 from the container 34. To start, the consumer opens the secondary cap 20 and grips or inserts a finger through the finger loop 68 and pulls it out of the container 34. As the threader 38 is pulled from the container 34, friction is created between the arms 44 and 46 and the inner diameter 56 of the wipes 32. The barbs 84 help to increase this friction to a point where the arms 44 and 46 are drawn outward from the stem 42 as the stem 42 is pulled up. Shown in Fig. 5, the arms 44 and 46 press outward on the inner diameter 56 of the wipes until they are normal to the stem 42 and the wipes 32. Fig. 6 shows the next step, in which the pointed tip 80 of the hook 52 catches on the inner layered wipe 58 or pierces through the inner layered wipe 58 and begins to drag the wipe 58 behind the threader 38.

Finally, as shown in Fig. 7, the threader 38 exits the opening 54 with the arms 44 and 46 folded downward to fit through. The inner layered wipe 58 remains engaged with the hook 52 and follows the threader 38 through the opening 54. At this time the consumer can access the initial wipe without having to reach into the container 32 and may disengage the wipe from the threader 38. Subsequent wipes 32 will be dispensed from the container 34 as the consumer pulls on the preceding exposed wipe. The threader 38 may be discarded.

#### IV. Alternative Embodiments

In alternative embodiments, the hook 52 may be replaced with any number of designs that will catch on a single wipe and pull it from the container 32. For example, Fig. 8 shows a half-arrow design 90 on threader 38' that is capable of catching or piercing the inner  
5 wipe and dispensing it. The variety of designs that may be substituted for the hook 52 enables the present invention to accommodate a wider range of wipes and other sheet materials. Fig. 8 also shows an alternative grip handle 92 that attaches to the base 40' as a substitute for the finger loop 68.

In a second alternative embodiment, the threader is not disposable and does not  
10 attach to the wipe dispensing container. In this embodiment, a consumer would simply use the threader with a pre-existing wipe dispenser to achieve the same result as in the preferred embodiment. After purchasing a conventional wipe dispenser containing a roll of wipes, the consumer would push the threader through the opening in the same manner described above, and then immediately pull the threader out of the opening to expose the initial wipe. In this  
15 embodiment, the threader could be saved and reused with any number of pre-existing wipe dispensers.

In a third alternative embodiment, the wipe dispenser does not include a removable cap. Because the present invention allows a user to access the wipes without reaching into the container, it is possible to have a container that completely encloses the wipes except for  
20 a wipe dispensing opening in the container.

The above descriptions are those of preferred embodiments of the invention. Various alterations and changes can be made without departing from the spirit and broader aspects of the invention as defined in the appended claims, which are to be interpreted in

accordance with the principles of patent law including the doctrine of equivalents. Any reference to claim elements in the singular, for example, using the articles "a," "an," "the" or "said," is not to be construed as limiting the element to the singular.